



深圳市创威时代光电有限公司

Shenzhen ChuangWei Seculens CO., Ltd.

产品规格书 Product Specification

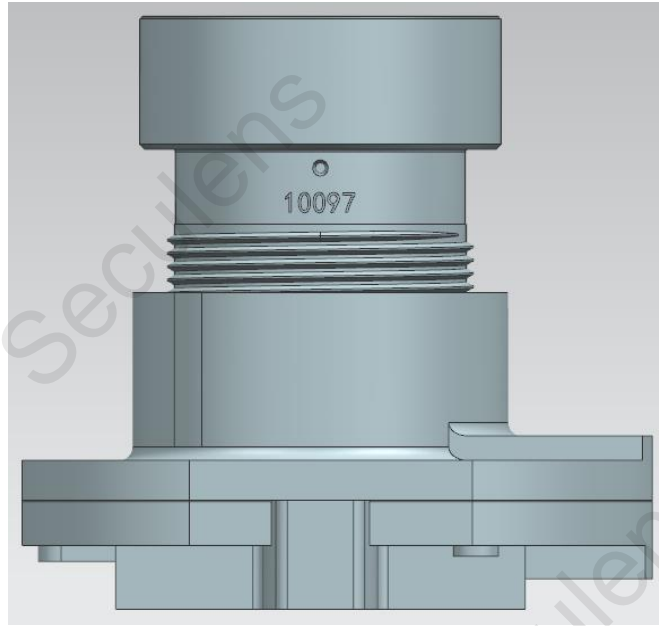
型号:
(Model Name) : YT10097-3MP+IR1305

编码:
(Part No.) : 01.10097.006.03

客户名称:
(Customer Name):

客户编码:
(Customer Part No.):

客户承认 (Customer Approved)



图片仅供参考
(picture only for your reference)

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3 变更履历 (Revision History) 变更符号标记 (Mark revised) : ○

版本 (REV.)	变更日期 (DATE)	变更内容 (Revision content)	作成 (Prepared by)	备注 (Remark)
1.0	22.02.16	新规作成 (New Spec Document prepared)	ZZY	
1.1				
1.2				
1.3				



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4.概要 (Outline)

4.1 应用范围 (Application)

适用于我司向贵司提供的镜头产品(The below datasheet is only suit to CWZK products.)

5 主要参数 (Main Items)

5.1 光学参数规格 (Optical Specifications)

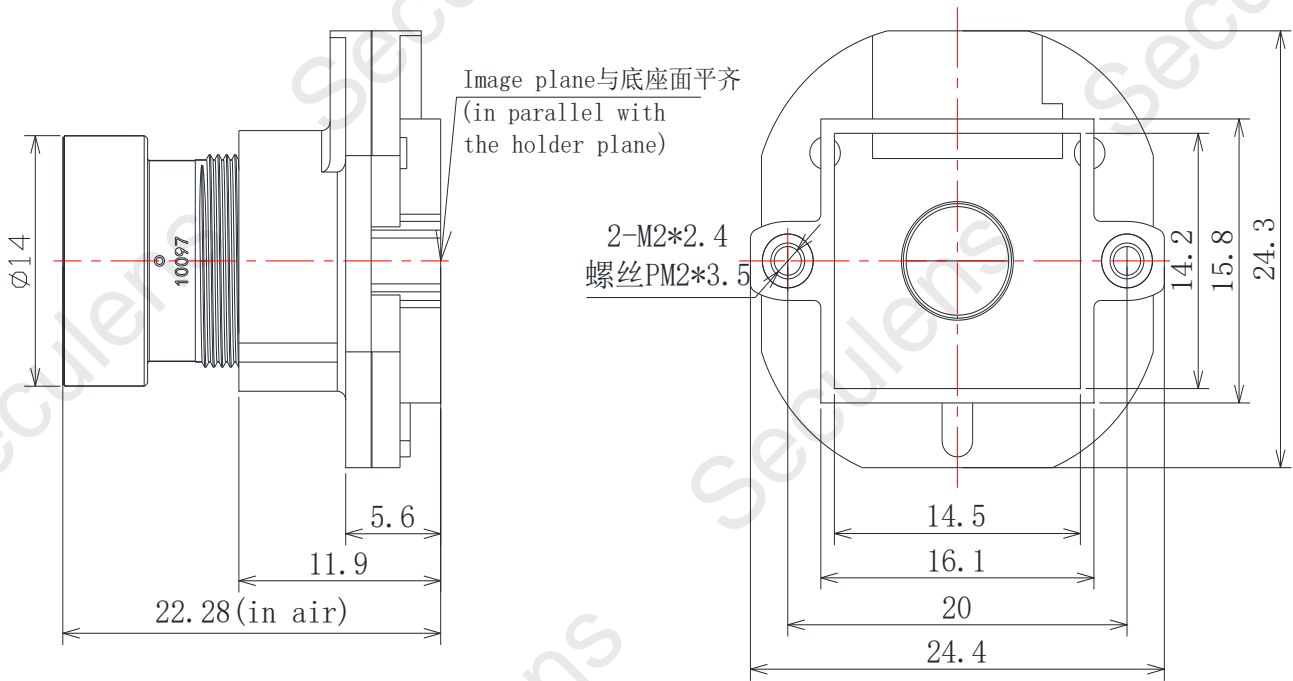
NO.	项目 (Items)		具体规格 (Specification)						
1	F No.		1.6±10%						
2	焦距(Focal-Length)		3.9±5%						
3	光学后焦 (Optical Back Focal Length)		5.0±0.2 (in air)						
4	机械后焦 (Mechanical Back Focal Length)		4.37±0.2 (in air)						
5	镜头总长(TTL)		22.28±0.2 (in air)						
6	像面大小 (Image circle)		Φ7 (MAX)						
7	镜片构成 (Lens structure)		1G3P (第一枚镜片为塑胶镜片, 仅可使用酒精擦拭3次) (The first optical lens is plastic lens, could only be wiped with alcohol 3 times)						
8	接口 (Mount)		M12*P0.5						
9	镜头与底座螺纹配合扭力 (Clamp Force)		60-600gf.cm						
10	视场角 (FOV)	sensor型号		H(水平)		V(垂直)		D(对角)	
		1/2.7"	5.760*3.240*6.609	89.7°		48.0°		107.7°	
		1/2.8"	5.568*3.132*6.388	86.1°		46.4°		102.6°	
		1/2.9"	5.376*3.024*6.168	82.6°		44.7°		97.8°	
11	光学畸变 (Optical Distortion)		1/2.7"	-38.3%	1/2.8"	-34.6%	1/2.9"	-31.3%	
12	TV畸变 (TV Distortion)		1/2.7"	-12.0%	1/2.8"	-11.0%	1/2.9"	-10.1%	
13	相对亮度 (Relative Illumination)		1/2.7"	40%	1/2.8"	42%	1/2.9"	48%	
14	最大主光线夹角 (CRA)		1/2.7"	17.7°	1/2.8"	17.3°	1/2.9"	16.9°	
15	近摄距 (M.O.D)		1.5m						
16	解像标准 (Resolution)		分辨率 (Resolution): 2048×1536 (3MP)						
17	建议芯片封装倾斜规格 (tilt tolerance of sensor packaging)		< 3.6'						
18	重量 (Weight)		/						
19	操作方法 (Operation)		聚焦 (Focus)			手动 (Manual)			
			光圈 (Iris)			固定 (Fixed)			
20	环保&安全 (HSF&Safety)		RoHS						

备注: 以上参数均为理论值, 仅供参考

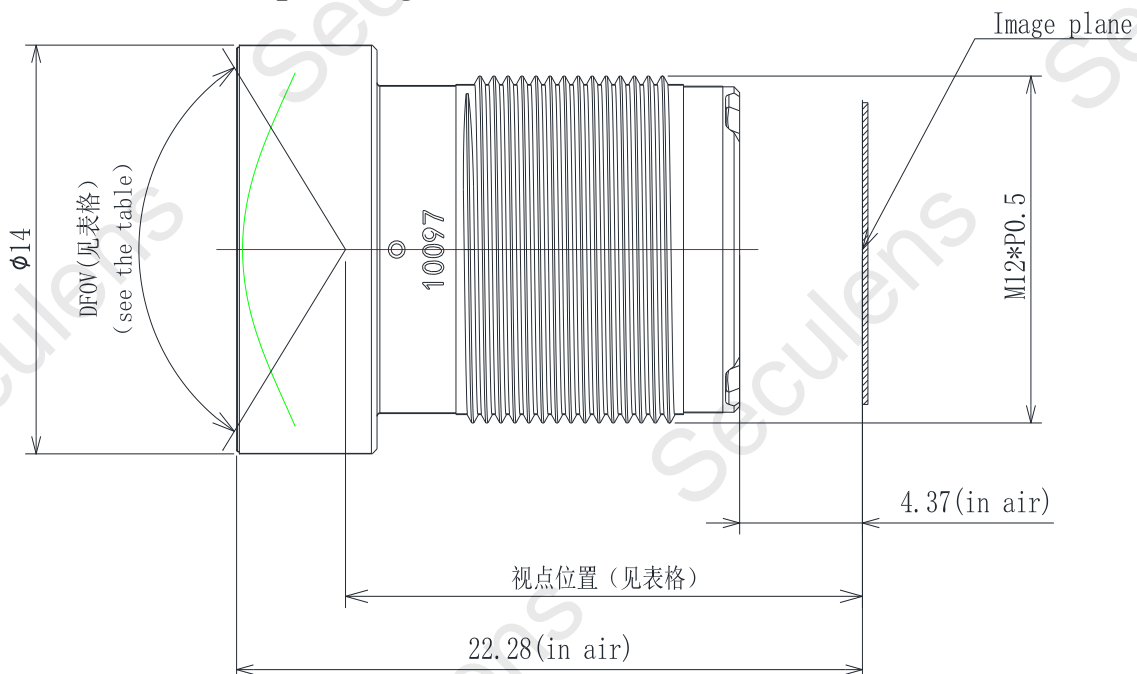
NOTE:The above parameters are theoretical values, for reference only

5.2 机构参数规格 (Mechanical Specifications)

5.2.1 外形尺寸图 (Dimension Figure)



5.2.2 视点图 (Viewpoint Figure)



未注公差 (Unmarked Tolerance): $\Phi \pm 0.1$, $L \pm 0.15$

本规格书未注单位 (Unit is not indicated in the document.): mm

5.2.3 视点信息 (Viewpoint table):

全像高 full image	视场角 FOV	视点 viewpoint	备注 remark	全像高 full image	视场角 FOV	视点 viewpoint	备注 remark
2.1	30.9°	13.61		6.9	115.3°	19.29	
2.2	32.4°	13.83		7	118.1°	19.44	
2.3	33.9°	14.03		7.1			
2.4	35.4°	14.22		7.2			
2.5	36.9°	14.39		7.3			
2.6	38.4°	14.55		7.4			
2.7	39.9°	14.71		7.5			
2.8	41.4°	14.85		7.6			
2.9	42.9°	14.99		7.7			
3	44.4°	15.12		7.8			
3.1	45.9°	15.25		7.9			
3.2	47.4°	15.36		8			
3.3	48.9°	15.48		8.1			
3.4	50.5°	15.59		8.2			
3.5	52.0°	15.70		8.3			
3.6	53.5°	15.80		8.4			
3.7	55.1°	15.90		8.5			
3.8	56.6°	16.00		8.6			
3.9	58.2°	16.10		8.7			
4	59.8°	16.19		8.8			
4.1	61.3°	16.28		8.9			
4.2	62.9°	16.38		9			
4.3	64.5°	16.47		9.1			
4.4	66.1°	16.56		9.2			
4.5	67.8°	16.65		9.3			
4.6	69.4°	16.73		9.4			
4.7	71.0°	16.82		9.5			
4.8	72.7°	16.91		9.6			
4.9	74.4°	17.00		9.7			
5	76.1°	17.10		9.8			
5.1	77.8°	17.20		9.9			
5.2	79.5°	17.31		10			
5.3	81.3°	17.41		10.1			
5.4	83.1°	17.51		10.2			
5.5	84.9°	17.62		10.3			
5.6	86.7°	17.72		10.4			
5.7	88.6°	17.83		10.5			
5.8	90.5°	17.95		10.6			
5.9	92.4°	18.06		10.7			
6	94.4°	18.18		10.8			
6.1	96.4°	18.29		10.9			
6.2	98.5°	18.41		11			
6.3	100.7°	18.53		11.1			
6.4	102.9°	18.65		11.2			
6.5	105.1°	18.77		11.3			
6.6	107.5°	18.90		11.4			
6.7	110.0°	19.03		11.5			
6.8	112.5°	19.16		11.6			

备注:

1. 最大像高提供至镜头支持的最大靶面（通用产品相对照度按照20%，特殊产品根据需求再联络）
2. 视点深度一律按照空气中尺寸计算；并且以镜头像面为起始位置；
3. 模拟参数时，物距暂定按照无穷远计算——此时镜头距离前窗玻璃最远，干涉风险最大；
4. 各数据的公差按照：视场角精确到0.1度，视点精确到0.01mm；

NOTE:

1. The max image height is the largest format that the lens can support (general RI is 20%);
2. It is in air depth of viewpoint; counting from lens image .
3. Simulated object distance is infinite.
4. tolerance: FOV 0.1° ; viewpoint 0.01mm.

5.3 IR-CUT参数规格 (IR1305) (IRCUT Specification)

NO	项目ITEM	条件Condition	单位Unit	标准Standard
1	产品外形尺寸(Product size)	装配外形(Assembly exterior)	mm	24.3*24.4*11.9
2	开口口径(Opening Aperture)	-	mm	Φ6.38
3	线长(Wire Length)	-	mm	67±5
4	线径(Wire diameter)	-	mm	0.7
5	绝缘等级(Insulation class)	-	-	A
6	端子保持力(Terminal retentivity)	-	N	≥10
7	线圈阻抗(Coil Resistance)	20°C	Ω	45±5
8	静态保持力(Static retention force)	-	g	≥0.6
9	通电电压(Electric voltage)	参照环境参数规格Refer to the environmental parameter specifications	V	3.5~12.0
10	通电时间(Electric time)	参照环境参数规格Refer to the environmental parameter specifications	ms	100~200
11	推荐驱动条件(Recommend Driving Condition)	参照环境参数规格Refer to the environmental parameter specifications	-	端口电压Port voltage: 3.5V驱动秒时Driving time: 150ms

备注: 产品通正反向电压, 通断电时间为: 通电100ms~200ms, 断电30s~60s, 不通电时滤光片保持不动。

Note: Positive and negative voltage. Time: power on 100ms ~200ms, power off 30s~60s. Filter does not move when power is off

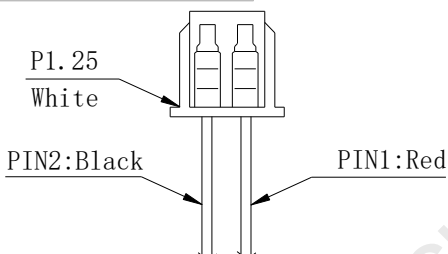
滤光片规格 (IR Filter Specifications)

红外波光片 (IR Filter)	镀膜方式 (Coating method)	单面镀膜Single side coating	
	滤光片基材 (Base material)	D263T	
	尺寸 (Size)	6.8mm*6.5mm*0.21mm(厚度公差±0.02mm)	
	镀膜规格 (Coating Spec)	350nm~380nm	Tave<3%
		420nm±10nm	T=50% 斜率20%~80%<20nm
		440nm~600nm	T>85% Tave>92.5%
645nm±10nm		T=50% 斜率80%~20%<20nm	
750nm~950nm	Tave<1% T<1%		
白片波光片 (Dummy Glass)	镀膜方式 (Coating method)	单面镀膜Single side coating	
	滤光片基材 (Base material)	D263T	
	尺寸 (Size)	6.8mm*6.5mm*0.21mm(厚度公差±0.02mm)	
	镀膜规格 (Coating Spec)	420nm~950nm T>85% Tave>92%	

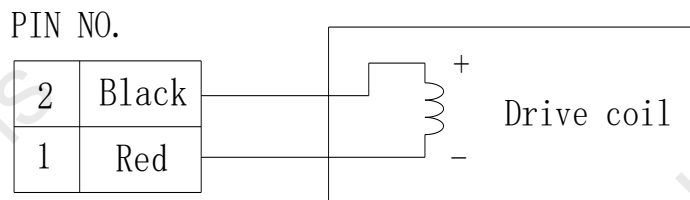
切换模式 (Switch type)

区分 Distinction	红线Red line	黑线Black line	状态State
极性Polarity	(-)	(+)	白玻璃片工作 (夜晚) Dummy glass work
	(+)	(-)	红外滤光片工作 (白天) IR Filters work

端子定义terminal:



接线示意图wiring diagram:



5.4 光学检测标准 (Optical Performance)

No.	检测项目 (Items)	描述 (Description)
1	解像力 (Resolution)	<p>1.1: MTF解像条件 A: 仪器: 锐景达MTF检测机台</p> <p>1.2: 拍摄标准(Criteria) 3MP: 100 lp/mm 中心: 0.46; 0.5D: S线0.4 T线0.22; 0.7D: S线0.33 T线0.2。</p>
2	外观标准 (Appearance Standards)	<p>2.1镜头内污 (LENS DUST) A:规格 60-40 伤痕: 宽度 <60um, 长度和 <D/2, ≤15um不计; 脏污: 单点直径 <400um, 200~400um点 ≤3个。</p> <p>2.2其他外观(Other appearance) 外表面颜色均匀, 无明显缺陷、污渍、异物伸出、明显划伤和收缩; 胶水不得溢入有效通光内。</p> <p>2.1 LENS DUST A: Specification 60-40 Scratch: width<60um, total length<D/2, ≤15um ignored; Smudge: Single dot diameter <400um, 200~400um dot ≤3 pcs</p> <p>2.2 Other appearance Outside surface uniform color; no visible flaws, stains, foreign bodies extended, obvious scratch or contraction; no glue spill into the effective aperture.</p>

5.5 环境参数规格 (Environment Specifications)

No.	环境描述 (Items)	条件(Description)
1	存放环境 (Storage condition)	-30°C~+80°C; 10-90%RH (No condensing)
2	工作环境 (Operation condition)	-20°C~+60°C; 10-90%RH (No condensing)

6 信赖性测试(Reliability Test)

No.	项目 (ITEM)	测试条件 (CONDITION)	判定标准 (standard of criterion)
1	高温存放试验 Storage Test At High Temperature	镜头在80℃温度中存放48小时，之后再存放在常温常湿环境中恢复6小时后，所有规格满足规定要求 All specification are to be satisfied after lens is exposed to 80℃ for 48 hours and then to normal temperature/humidity for 6 hours	变化20%以内；回常温中心变化50本，周边100本以内 after test, resolution change $\leq 20\%$; resolution change ≤ 50 lines when lens temperature return to room temperature
2	低温存放试验 Storage Test At Low Temperature	镜头在-30℃温度中存放48小时，之后再存放在常温常湿环境中恢复6小时后，所有规格满足规定要求 All specification are to be satisfied after lens is exposed to -30℃ for 48 hours and then to normal temperature/humidity for 6 hours	变化20%以内；回常温中心变化50本，周边100本以内 after test, resolution change $\leq 20\%$; resolution change ≤ 50 lines when lens temperature return to room temperature
3	冷热冲击试验 Temperature Cycle Test	镜头在-30℃条件下保持60分钟，然后升温至+70℃，稳定后保持60分钟作为一个周期，共10个周期。之后再存放在常温常湿环境中恢复6小时后，所有规格满足规定要求 All specification are to be satisfied after lens is exposed to -30℃ for 60min, Tank temperature change +70℃ for 60min as one cycle, 10 cycle shall be performed. And then to normal temperature/humidity for 6 hours	变化20%以内；回常温中心变化50本，周边100本以内 after test, resolution change $\leq 20\%$; resolution change ≤ 50 lines when lens temperature return to room temperature
4	振动试验 Vibration Test	频率：加速度谱密度 1Hz 0.00072 g ² /Hz; 3.0Hz 0.018 g ² /Hz; 4.0Hz 0.018 g ² /Hz; 5.0Hz 0.01 g ² /Hz; 100.0 Hz 0.01 g ² /Hz; 135.0 Hz 0.00148 g ² /Hz; 200.0 Hz 0.001 g ² /Hz; 201.0 Hz 0.00012 g ² /Hz; 300.0 Hz 0.00001 g ² /Hz; 总均方根加速度：1.087Grms 试验轴向：3轴向。 试验时间：Z方向60min，X和Y方向30min 对于A类包装（包装件重量 ≤ 45 KG）：起始频率点为5Hz	变化20%以内； after test, resolution change $\leq 20\%$;

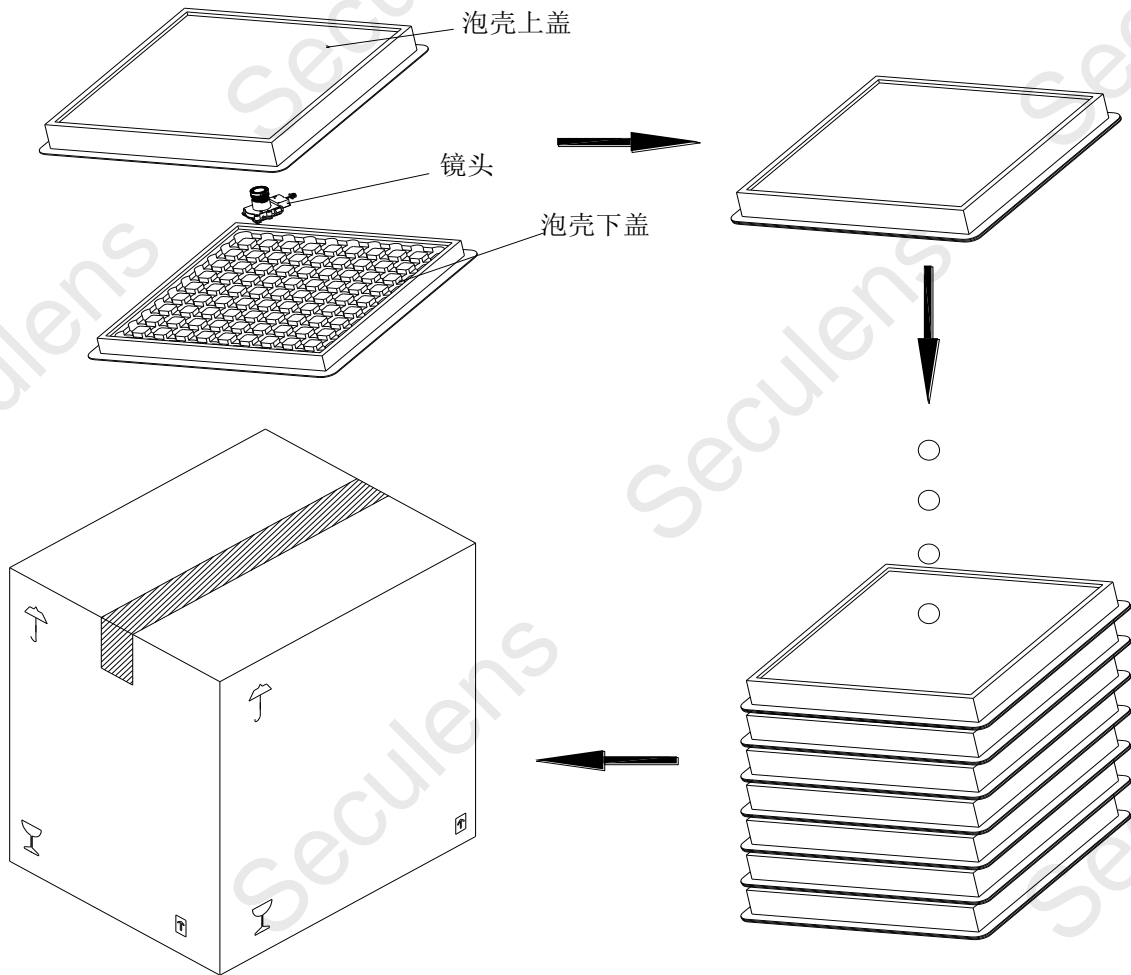


No.	项目 (ITEM)	测试条件 (CONDITION)	判定标准 (standard of criterion)
5	耐久试验 (Durability)	<p>试验标准:</p> <ul style="list-style-type: none"> ▪ VCM马达: <ul style="list-style-type: none"> 电流: 0~90~0 mA , 持续1秒 Current : 0~90~0 mA for 1sec 方向: +Z 方向 Direction : +Z direction 周期: 1轮=0.5秒开启→ 0.5s 关闭 Cycle : 1cycle= 0.5s ON→ 0.5s OFF 温度: 23C° ±2C° Temperature : 23C° ±2C° 时间: 300,000轮 Times : 300,000cycles ▪ IR-cut filter section <ul style="list-style-type: none"> IN ≡ OUT 驱动100ms, 断电2500ms 往复驱动, 20000次 0.5 ~ 1.0 seconds for each reciprocating 20,000 times <p>测试项目:</p> <p><input checked="" type="checkbox"/> IR-cut <input type="checkbox"/> VCM马达 <input type="checkbox"/> 不涉及</p>	<p>试验后各项性能OK; all meet test standard after test</p>
6	跌落试验 (drop test)	<p>1. 高度: 包装后, 高度1m; 2. 落下方向: 一角三棱六面; 3. 次数: 各一次; 上述实验条件后作动无异常。(NO abnormalities for operation after testing with above experiment conditions)</p> <p>1.Height: 1m after packaged; 2.Direction: A triangular prism with six faces; 3.NO abnormality after experiment above all.</p>	<p>试验后各项性能OK; all meet test standard after test</p>

7 包装规格 (Package)

1. 镜头盖上镜头盖后，放入泡壳。

2. 盖上泡壳上盖，泡壳上贴标示票。



4. 密封胶带，箱子外面贴标示票。

3. 装满镜头的泡壳抽真空后重叠放入纸箱。

※ 注：包装纸箱可根据客户订单灵活选用，以上包装以纸箱（320*240*490）包装示例

数量：

待定 PCS/盒

待定 盒/箱

待定 PCS/箱